

Vermont Mental Health Performance Indicator Project
Agency of Human Services, Department of Health, Division of Mental Health
108 Cherry Street, Burlington, Vermont 05402

TO: Vermont Mental Health Performance Indicator Project
Advisory Group and Interested Parties

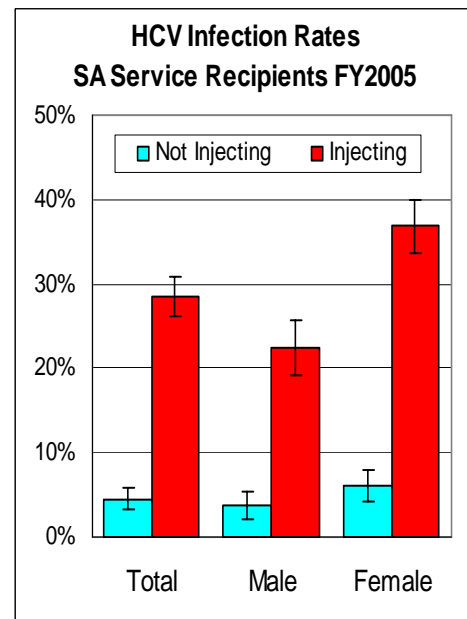
FROM: John Pandiani and Joan Mongeon

DATE: September 29, 2006

RE: Viral Hepatitis C Infection Among Injecting and Non-Injecting Substance Abuse
Service Recipients

This PIP report is the third in a series that examines viral hepatitis infection rates among mental health and substance abuse service recipients. The first report in this series compared hepatitis B and C infection rates for adult mental health service recipients, adult substance abuse service recipients, and the general population of Vermont.¹ The second report compared hepatitis B and C infection rates for two groups of people receiving community-based services for serious mental illness in Vermont: those with evidence of co-occurring substance abuse disorders and those with no evidence of co-occurring substance abuse disorders.² This week's report compares hepatitis C infection rates for two groups of substance abuse service recipients: those who report intravenous drug use and those who do not. In addition, this report provides overall infection rates and infection rates for individuals in different age and gender groups among service recipients.

Analysis is based on anonymous extracts from administrative databases. Basic demographic information about adults aged 18-64 who received public substance abuse services in Vermont during FY2005, as well as their self reported IV drug use history were extracted from Vermont's substance abuse Treatment Episode Data Set (TEDS). Basic demographic information about individuals represented on the Vermont Department of Health Hepatitis Registry, provided basic demographic information for the 4,465 individuals who received a diagnosis of hepatitis C in Vermont during 1994 through 2005. Because these data sets do not share unique person identifiers, Probabilistic Population Estimation was used to determine the unduplicated number of drug injecting and non-injecting substance abuse service recipients who were also represented in the hepatitis data set. All statistical estimates in the text are accompanied by a "±" to indicate statistical uncertainty, and the actual 95% confidence intervals are provided in the tables.



As you will see, hepatitis C infection rates were substantially higher for drug injectors than for non-injectors overall, and for both male and female substance abuse service recipients. Also, female substance abusers were more likely than male substance abusers to have a hepatitis C infection in both the injecting and non-injecting groups. This is in sharp contrast to research that has found men to be substantially more likely than women to have a hepatitis C infection in the general population and among adults with serious mental illness.³

Interestingly, this gender difference is not consistent across age groups. In the 18-34 age group, females were significantly more likely than men to have a hepatitis C infection in both the injecting and non-injecting groups. In the 35-49 age group, women were again more likely than men to have a hepatitis C infection in both groups but the difference was statistically significant in only the injecting group. In the 50-64 age group, however, women were less likely to have a hepatitis C infection in both the injecting and non-injecting groups, with a statistically significant difference in the injecting group only.

These findings demonstrate a substantial difference among age groups in the relative likelihood of hepatitis C infection among men and women. Generally speaking, differences among age groups tend to be explained in one of two ways. One type of explanation relates change to the passage of time such as the aging and maturation process. The other type of explanation tends to relate the change to social and cultural changes in the larger society.

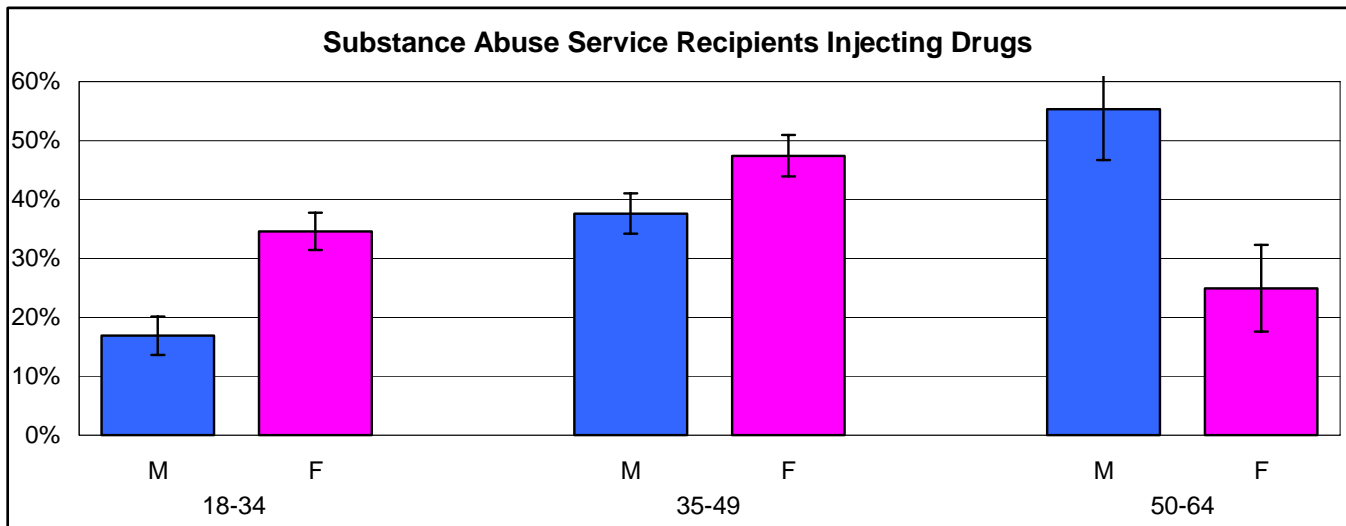
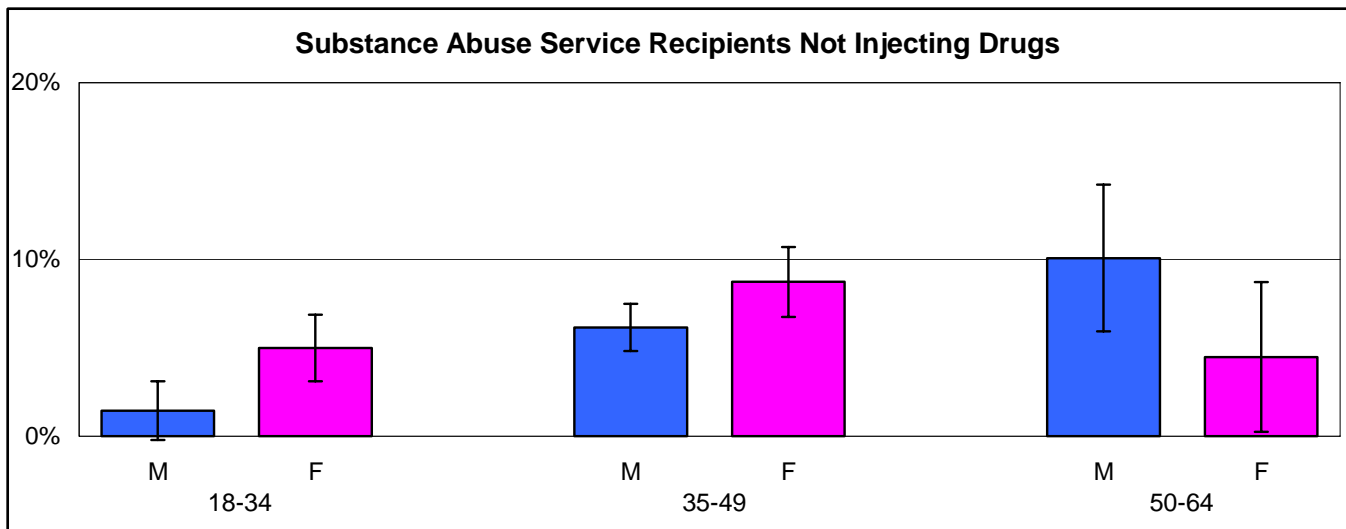
We will be very interested to hear your suggestions for understanding the change in patterns of hepatitis C infection from a more characteristically male disorder among older people (those who were born before 1955) to a more characteristically female disorder among younger people (those born after 1970).

As always we look forward to your comments, your suggestions, and your requests for further analysis to pip@vdh.state.vt.us or (802)863.7249.

References

- ¹ Viral Hepatitis Infection Among MH and SA Service Recipients (07/07/06)
<http://healthvermont.gov/mh/docs/pips/2006/Pip070706.pdf>
- ² Viral Hepatitis Infection and Substance Abuse for CRT Clients (08/04/06)
<http://healthvermont.gov/mh/docs/pips/2006/Pip080406.pdf>
- ³ Butterfield, M. I., Bosworth, H. B., Meador, K. G., et al. (2003). Gender Differences in Hepatitis C Infection and Risks Among Persons with Severe Mental Illness. *Psychiatric Services*, 54(6), 848-853.

Hepatitis C Viral (HCV) Infection Rates SA Service Recipients FY2005



		Not Injecting Drugs		Injecting Drugs	
		#	% HCV	#	% HCV
	Total	4,580 ± 48	5% ± 1%	733 ± 9	29% ± 2%
Gender	Male	3,099 ± 43	4% ± 2%	422 ± 7	22% ± 3%
	Female	1,481 ± 21	6% ± 2%	311 ± 5	37% ± 3%
Male	18-34	1,835 ± 38	1% ± 1%	320 ± 6	17% ± 3%
Female	18-34	873 ± 19	5% ± 2%	249 ± 5	35% ± 4%
Male	35-49	979 ± 19	6% ± 4%	90 ± 2	38% ± 9%
Female	35-49	485 ± 10	9% ± 4%	58 ± 1	47% ± 7%
Male	50-64	285 ± 6	10% ± 7%	12 ± 0	55% ± 23%
Female	50-64	122 ± 3	4% ± 6%	4 ± 0	25% ± 1%

Analysis is based on data extracted from the Vermont Treatment Episode Data Set (TEDS) for FY2005 and data extracted from the Vermont Department of Health Hepatitis Registry January 1994 through June 2005. Because these data sets do not share unique person identifiers, Probabilistic Population Estimation was used to determine the unduplicated number of individuals shared by both.